

# Raw Sequence Listing Error Summary

## ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER:

09/845,199

**ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE**

- 1        Wrapped Nucleics      The number/text at the end of each line "wrapped" down to the next line.  
This may occur if your file was retrieved in a word processor after creating it.  
Please adjust your right margin to .3, as this will prevent "wrapping".
- 2        Wrapped Aminos      The amino acid number/text at the end of each line "wrapped " down to the next line.  
This may occur if your file was retrieved in a word processor after creating it.  
Please adjust your right margin to .3, as this will prevent "wrapping".
- 3        Incorrect Line Length      The rules require that a line not exceed 72 characters in length. This includes spaces.
- 4        Misaligned Amino Acid      The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs  
Numbering      between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
- 5        Non-ASCII      This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.  
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
- 6        Variable Length      Sequence(s)        contain n's or Xaa's which represented more than one residue.  
As per the rules, each n or Xaa can only represent a single residue.  
Please present the maximum number of each residue having variable length and  
indicate in the (ix) feature section that some may be missing.
- 7        PatentIn ver. 2.0 "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid  
sequence(s)       . Normally, PatentIn would automatically generate this section from the  
previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section  
to the subsequent amino acid sequence.
- 8        Skipped Sequences      Sequence(s)        missing. If intentional, please use the following format for each skipped sequence:  
(OLD RULES)      **(2) INFORMATION FOR SEQ ID NO:X:**  
                                 **(i) SEQUENCE CHARACTERISTICS:**(Do not insert any headings under "SEQUENCE CHARACTERISTICS")  
                                 **(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:**  
                                 **This sequence is intentionally skipped**  
  
Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
- 9        Skipped Sequences      Sequence(s)        missing. If intentional, please use the following format for each skipped sequence.  
(NEW RULES)      **<210> sequence id number**  
                                 **<400> sequence id number**  
                                 **000**
- 10        Use of n's or Xaa's      Use of n's and/or Xaa's have been detected in the Sequence Listing.  
(NEW RULES)      Use of <220> to <223> is MANDATORY if n's or Xaa's are present.  
                                 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 11        Use of <213>Organism      Sequence(s)        are missing this mandatory field or its response.  
(NEW RULES)
- 12        Use of <220>Feature      Sequence(s)        are missing the <220>Feature and associated headings.  
(NEW RULES)      Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown"  
                                 **Please explain source of genetic material in <220> to <223> section.**  
                                 **(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)**
- 13        PatentIn ver. 2.0 "bug"      **Please do not use "Copy to Disk" function of PatentIn version 2.0.** This causes a corrupted  
file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).  
Instead, please use "File Manager" or any other means to copy file to floppy disk.



PAGE: 1

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/545,199

DATE: 05/05/2000  
TIME: 14:00:02

Input Set: I545199.RAW

This Raw Listing contains the General Information  
Section and up to first 5 pages.

see  
pp. 5, 7

E--> 1 <110> *> see Item 13 on Enov Summary Sheet regarding*  
E--> 2 <120> *these missing mandatory items*  
W--> *OK* 3 <130>  
4 <151> 1999-09-10  
5 <150> 60/128,689  
6 <151> 1999-04-09  
7 <160> 165  
8 <170> PatentIn Ver. 2.0  
9 <210> 1  
10 <211> 1112  
11 <212> DNA  
12 <213> Pasteurella multocida  
13 <220>  
14 <221> CDS  
15 <222> (210)..(1001)  
16 <220>  
17 <223> atpB  
18 <400> 1  
19 gtcaacaaca ttttatggtg gagaggccgt taaatttata tccacaattt ttttgattgt 60  
20 acttgctttt aaactgttca attcaatgca ttttattgca tttttgttg gatattttat 120  
21 aacaatagtt ttaaacaata ttcttccatt ttttataagt aagtacttaa atataaagca 180  
22 ttttcataaa tatcaataaa ggattagtt atg gca gca gag ctt aca aca gcg 233  
23 Met Ala Ala Glu Leu Thr Thr Ala  
24 1 5  
25 gga tat att ggg cac cat tta gca ttc ttg aaa aca ggg gat tct ttc 281  
26 Gly Tyr Ile Gly His His Leu Ala Phe Leu Lys Thr Gly Asp Ser Phe  
27 10 15 20  
28 tgg cat gtt cat tta gat acc ctt cta ttt tca att att tca ggt gca 329  
29 Trp His Val His Leu Asp Thr Leu Leu Phe Ser Ile Ile Ser Gly Ala  
30 25 30 35 40  
31 att ttt ctt ttt gtt ttt tca aaa gtt gca aaa aaa gca acg ccg ggt 377  
32 Ile Phe Leu Phe Val Phe Ser Lys Val Ala Lys Lys Ala Thr Pro Gly  
33 45 50 55  
34 gtg cct agc aag atg caa tgt ttt gtt gag ata atg gtt gat tgg att 425  
35 Val Pro Ser Lys Met Gln Cys Phe Val Glu Ile Met Val Asp Trp Ile  
36 60 65 70  
37 gat ggg atc gta aaa gaa aat ttc cat ggt cct cgt cat gct gtt gga 473  
38 Asp Gly Ile Val Lys Glu Asn Phe His Gly Pro Arg His Ala Val Gly  
39 75 80 85  
40 cca tta gca tta act att ttc tgc tgg gta ttc att atg aat gct atc 521  
41 Pro Leu Ala Leu Thr Ile Phe Cys Trp Val Phe Ile Met Asn Ala Ile  
42 90 95 100  
43 gat ttg atc cca gta gat ttc cta cct caa tta gcc cat tta ttt ggt 569  
44 Asp Leu Ile Pro Val Asp Phe Leu Pro Gln Leu Ala His Leu Phe Gly

Does Not Comply  
Corrected Diskette Needed



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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/545,199

DATE: 05/05/2000  
TIME: 14:00:02

Input Set: I545199.RAW

```

45      105      110      115      120
46      att gaa tac tta aga gct gtt cca aca gca gat atc agt gga aca tta 617
47      Ile Glu Tyr Leu Arg Ala Val Pro Thr Ala Asp Ile Ser Gly Thr Leu
48              125              130              135
49      ggc tta tca att ggt gtc ttc ttc tta att att ttc tat aca atc aaa 665
50      Gly Leu Ser Ile Gly Val Phe Phe Leu Ile Ile Phe Tyr Thr Ile Lys
51              140              145              150
52      tca aaa ggt atg agt ggc ttt gtt aaa gaa tat acg ctt cat cct ttt 713
53      Ser Lys Gly Met Ser Gly Phe Val Lys Glu Tyr Thr Leu His Pro Phe
54              155              160              165
55      aat cat cct ttg tta att ccg gtt aac tta gcg ctt gaa tca gtc aca 761
56      Asn His Pro Leu Leu Ile Pro Val Asn Leu Ala Leu Glu Ser Val Thr
57              170              175              180
58      tta tta gca aaa cct gtt tct ttg gcg ttc cgt ctt ttc ggg aat atg 809
59      Leu Leu Ala Lys Pro Val Ser Leu Ala Phe Arg Leu Phe Gly Asn Met
60      185              190              195              200
61      tat gca ggt gaa ctt atc ttt att ctt att gca gtg atg tac atg gca 857
62      Tyr Ala Gly Glu Leu Ile Phe Ile Leu Ile Ala Val Met Tyr Met Ala
63              205              210              215
64      aat aat ttt gca ctt aat tca atg ggt att ttc atg cat ttg gct tgg 905
65      Asn Asn Phe Ala Leu Asn Ser Met Gly Ile Phe Met His Leu Ala Trp
66              220              225              230
67      gct att ttc cat att ctt gtg att acc tta caa gca ttt att ttt atg 953
68      Ala Ile Phe His Ile Leu Val Ile Thr Leu Gln Ala Phe Ile Phe Met
69              235              240              245
70      atg ctt aca gtg gtt tat ttg agt atg ggt tat aac aaa gca gaa cac 1001
71      Met Leu Thr Val Val Tyr Leu Ser Met Gly Tyr Asn Lys Ala Glu His
72              250              255              260
73      taatttttta taaacaaaac cagaccttgg gtctaaattt caatcttatg gagaacatta 1061
74      tggaacactg taattactac aacaatcatc gcactctgaa tttttcttgc t 1112
75      <210> 2
76      <211> 264
77      <212> PRT
78      <213> Pasteurella multocida
79      <400> 2
80      Met Ala Ala Glu Leu Thr Thr Ala Gly Tyr Ile Gly His His Leu Ala
81      1      5      10      15
82      Phe Leu Lys Thr Gly Asp Ser Phe Trp His Val His Leu Asp Thr Leu
83      20      25      30
84      Leu Phe Ser Ile Ile Ser Gly Ala Ile Phe Leu Phe Val Phe Ser Lys
85      35      40      45
86      Val Ala Lys Lys Ala Thr Pro Gly Val Pro Ser Lys Met Gln Cys Phe
87      50      55      60
88      Val Glu Ile Met Val Asp Trp Ile Asp Gly Ile Val Lys Glu Asn Phe
89      65      70      75      80
90      His Gly Pro Arg His Ala Val Gly Pro Leu Ala Leu Thr Ile Phe Cys
91      85      90      95
92      Trp Val Phe Ile Met Asn Ala Ile Asp Leu Ile Pro Val Asp Phe Leu
93      100      105      110

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W--&gt;

*see item 10 on Error Summary sheet*



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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/545,199

DATE: 05/05/2000  
TIME: 14:00:02

Input Set: I545199.RAW

```

94      Pro Gln Leu Ala His Leu Phe Gly Ile Glu Tyr Leu Arg Ala Val Pro
95              115                      120                      125
96      Thr Ala Asp Ile Ser Gly Thr Leu Gly Leu Ser Ile Gly Val Phe Phe
97              130                      135                      140
98      Leu Ile Ile Phe Tyr Thr Ile Lys Ser Lys Gly Met Ser Gly Phe Val
99      145                      150                      155                      160
100     Lys Glu Tyr Thr Leu His Pro Phe Asn His Pro Leu Leu Ile Pro Val
101              165                      170                      175
102     Asn Leu Ala Leu Glu Ser Val Thr Leu Leu Ala Lys Pro Val Ser Leu
103              180                      185                      190
104     Ala Phe Arg Leu Phe Gly Asn Met Tyr Ala Gly Glu Leu Ile Phe Ile
105              195                      200                      205
106     Leu Ile Ala Val Met Tyr Met Ala Asn Asn Phe Ala Leu Asn Ser Met
107              210                      215                      220
108     Gly Ile Phe Met His Leu Ala Trp Ala Ile Phe His Ile Leu Val Ile
109      225                      230                      235                      240
110     Thr Leu Gln Ala Phe Ile Phe Met Met Leu Thr Val Val Tyr Leu Ser
111              245                      250                      255
112     Met Gly Tyr Asn Lys Ala Glu His
113              260
114     <210> 3
115     <211> 1972
116     <212> DNA
117     <213> Pasteurella multocida
118     <220>
119     <221> CDS
120     <222> (364)..(1230)
121     <220>
122     <223> atpG
123     <400> 3
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125     acatgggtcaa aaagtaactg aattattgaa acaaaaaccaa tactctccgt tatctgtagc 120
126     acaacaagca ttagtggttat ttgcagtaga gtttggttac ttagaagaag tggacttaga 180
127     tcgtattggt tcatttgaat cagcactttt agagtatgct aaccataact atgctgattt 240
128     tatgcgtgag ttaacccaat ctggcaatta caatgatgaa attaaagagt cattaagg 300
129     cattttggat agcttcaaag caaacagtgc gtggtaagtt aacactttta atggagagac 360
130     aaa atg gca ggt gct aaa gag ata aga acc aaa atc gcg agt gta aaa 408
131     Met Ala Gly Ala Lys Glu Ile Arg Thr Lys Ile Ala Ser Val Lys
132     1                      5                      10                      15
133     agt aca caa aaa att act aaa gcg atg gaa atg gtt gct gcc tcg aaa 456
134     Ser Thr Gln Lys Ile Thr Lys Ala Met Glu Met Val Ala Ala Ser Lys
135              20                      25                      30
136     atg cgt aaa acg caa gaa cgc atg tct tct tca cgc cct tat tca gaa 504
137     Met Arg Lys Thr Gln Glu Arg Met Ser Ser Ser Arg Pro Tyr Ser Glu
138              35                      40                      45
139     aca ata cgt aac gtg att agc cac gtt tcc aaa gca acg att ggt tac 552
140     Thr Ile Arg Asn Val Ile Ser His Val Ser Lys Ala Thr Ile Gly Tyr
141              50                      55                      60
142     aag cat cca ttt tta gtg gat cgc gaa gta aaa aaa gtg ggc atg att 600
143     Lys His Pro Phe Leu Val Asp Arg Glu Val Lys Lys Val Gly Met Ile

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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/545,199

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144	65	70	75	
145	ggt gtg tcc	aca gat cgt ggt ctt tgt ggt ggc	tta aac gtg aac ttg	648
146	Val Val Ser Thr	Asp Arg Gly Leu Cys Gly Gly	Leu Asn Val Asn Leu	
147	80	85	90	95
148	ttt aaa act gta	tta aat gaa atg aaa gaa tgg	aaa gaa aaa gat gtt	696
149	Phe Lys Thr Val	Leu Asn Glu Met Lys Glu Trp	Lys Glu Lys Asp Val	
150		100	105	110
151	tcc gtt caa ttg	agt tta atc ggt tct aaa tct	atc aac ttt ttc caa	744
152	Ser Val Gln Leu	Ser Leu Ile Gly Ser Lys Ser	Ile Asn Phe Phe Gln	
153		115	120	125
154	tct ttg gga att	aaa att tta acc caa gat tca	ggt att ggt gat act	792
155	Ser Leu Gly Ile	Lys Ile Leu Thr Gln Asp Ser	Gly Ile Gly Asp Thr	
156		130	135	140
157	ccc tct gtt gag	cag tta att ggt tca gtc aat	tct atg att gat gct	840
158	Pro Ser Val Glu	Gln Leu Ile Gly Ser Val Asn	Ser Met Ile Asp Ala	
159		145	150	155
160	tat aaa aaa ggg	gaa gta gat gtt gtg tat tta	ggt tat aac aaa ttt	888
161	Tyr Lys Lys Gly	Glu Val Asp Val Val Tyr Leu	Val Tyr Asn Lys Phe	
162	160	165	170	175
163	att aac acg atg	tcg caa aag cca gta ttg gaa	aaa tta att cca tta	936
164	Ile Asn Thr Met	Ser Gln Lys Pro Val Leu Glu	Lys Leu Ile Pro Leu	
165		180	185	190
166	cca gaa tta gat	aat gat gaa tta ggc gaa aga	aaa caa gtt tgg gat	984
167	Pro Glu Leu Asp	Asn Asp Glu Leu Gly Glu Arg	Lys Gln Val Trp Asp	
168		195	200	205
169	tat att tac gaa	cct gat gcg aaa gta tta tta	gat aat tta ttg gtt	1032
170	Tyr Ile Tyr Glu	Pro Asp Ala Lys Val Leu Leu	Asp Asn Leu Leu Val	
171		210	215	220
172	cgt tat tta gaa	tct cag gtt tat caa gca gca	ggt gaa aac ctt gct	1080
173	Arg Tyr Leu Glu	Ser Gln Val Tyr Gln Ala Ala	Val Glu Asn Leu Ala	
174		225	230	235
175	tct gag caa gcc	gct cga atg gtc gcc atg aaa	gca gca aca gat aac	1128
176	Ser Glu Gln Ala	Ala Arg Met Val Ala Met Lys	Ala Ala Thr Asp Asn	
177	240	245	250	255
178	gca ggt aac tta	att aat gag tta cag tta gtc	tat aac aaa gct cgt	1176
179	Ala Gly Asn Leu	Ile Asn Glu Leu Gln Leu Val	Tyr Asn Lys Ala Arg	
180		260	265	270
181	caa gca agt att	aca aat gaa tta aat gaa att	ggt gcc ggt gca gca	1224
182	Gln Ala Ser Ile	Thr Asn Glu Leu Asn Glu Ile	Val Ala Gly Ala Ala	
183		275	280	285
184	gca att taacaaatag	aggatcggta atggcaactg	gaaaaattgt acaaatcatc	1280
185	Ala Ile			
186	ggtgcggtta ttgacgttga	attcccacaa gatgcagtac	caaaagtata tgatgcctta	1340
187	aatggtgaaa caggttttagt	acttgaagtt caacaacaat	taggtggtgg tgtagttcgc	1400
188	tgatcgcgcaa tgggatcatc	tgatggatta aaacgcggtt	taagcgtaac aaatacgaat	1460
189	aacccaattt ctgttccagt	gggaacgaaa acattgggtc	gtatcatgaa cgtattgggt	1520
190	gaaccaatcg atgagcaagg	tgaaatcggg gcagaagaga	attggtctat tcaccgtgcg	1580
191	ccaccaagtt atgaagaaca	atctaacagt actgaacttt	tagaaacggg aattaaagtt	1640
192				

w-->OK



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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/545,199DATE: 05/05/2000  
TIME: 14:00:02

Input Set: I545199.RAW

```
193      atcgacttag tttgtccggt tgcgaaaggg ggtaaagtag gtttattcgg tggcgcgggg 1700
194      gtcggtaaaa ccgtcaatat gatggaatta atccgtaaca tcgcaattga gcactcaggt 1760
195      tactctgtct ttgcgggggt aggtgagcgt acgcgtgaag gtaacgactt ctatcatgag 1820
196      atgaaagact ctaacgtatt agataaagtg tctcttggtt atgggtcaa atgacgagcca 1880
197      ccaggtaacc gtttacgtgt ggcatataca ggcttaacta tggcggaata attccgtgat 1940
198      gaaggtcgtg atgtcttatt cttcgttgat aa 1972
```

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.



Input Set: I545199.RAW

Line	? Error/Warning	Original Text
1	E Response to "Applicant" Name is Missing	
2	E Response to "Title of Invention" Missing	
3	W Response to "File Reference" is Missing	
74	W "N" or "Xaa" used: Feature required	tggaacactg taattactac aacaatcatc gcactctgn
186	W Invalid/Missing Amino Acid Numbering	
1904	W Invalid/Missing Amino Acid Numbering	
2528	W "N" or "Xaa" used: Feature required	agt cct tta tat tgg ggg ccg agt cgc cat c
2531	W "N" or "Xaa" used: Feature required	gaa ttt cgt gat ang ttt tta gaa aat atg a
2534	W "N" or "Xaa" used: Feature required	cgg ccg tgg caa atc aat ana ttc aga caa c
2613	W "N" or "Xaa" used: Feature required	Ser Pro Leu Tyr Trp Gly Pro Ser Arg His A
2615	W "N" or "Xaa" used: Feature required	Glu Phe Arg Asp Xaa Phe Leu Glu Asn Met A
2617	W "N" or "Xaa" used: Feature required	Arg Pro Trp Gln Ile Asn Xaa Phe Arg Gln G
2792	W Invalid/Missing Amino Acid Numbering	
3504	W "N" or "Xaa" used: Feature required	ata aan caa tac cat aaa gga aaa ntg agc a
3513	W "N" or "Xaa" used: Feature required	ata tta gca naa atn tcg aga ggc ncg gat a
3524	W "N" or "Xaa" used: Feature required	aaatttacta atcctccaaa ttctcctcct cgnagaat
3528	W "N" or "Xaa" used: Feature required	ttttctcgac actcaccatc ccaaacaata tatancnt
3560	W "N" or "Xaa" used: Feature required	Asn Phe Met Pro Asn Gln Leu Glu Arg Ile X
3562	W "N" or "Xaa" used: Feature required	Lys Xaa Ser Asn Leu His Ser Leu Glu Lys T
3566	W "N" or "Xaa" used: Feature required	His Phe Asn Val Tyr Phe Tyr Gln Lys Ile L
3568	W "N" or "Xaa" used: Feature required	Gly Xaa Asp Lys Glu Arg Val Leu Ser Ile L
3588	W "N" or "Xaa" used: Feature required	nat aat aaa ggc att caa gat gag caa tta t
3600	W "N" or "Xaa" used: Feature required	atc ttc ngf gta nat gcg tta cca gaa gtc c
3621	W "N" or "Xaa" used: Feature required	cttggttaaaa caatgtactg taatggataa tcctttgg
3622	W "N" or "Xaa" used: Feature required	caggctttgt cgatcacggc aaaatgtatc gtgatacc
3635	W "N" or "Xaa" used: Feature required	attgagtaac ncaaaaatga aaagcgacac gcaatggg
3636	W "N" or "Xaa" used: Feature required	aaacgccatc acaaaaaccna tattggntca ntatctgg
3649	W "N" or "Xaa" used: Feature required	Xaa Asn Lys Gly Ile Gln Asp Glu Gln Leu P
3657	W "N" or "Xaa" used: Feature required	Ile Phe Xaa Val Xaa Ala Leu Pro Glu Val L
3729	W "N" or "Xaa" used: Feature required	ccgatcgttt aagagaactg aatttacgtg tanatcgt
4334	W "N" or "Xaa" used: Feature required	gcttgatnta atgtttcgtg taagttaacg atatgtat
5975	W "N" or "Xaa" used: Feature required	acaatatggt gccaaactca ttggtgtatc anttacgg
6076	W Invalid/Missing Amino Acid Numbering	
6436	W Invalid/Missing Amino Acid Numbering	
7042	W "N" or "Xaa" used: Feature required	ctaggtacct acaacctcaa gcttnknknk nknknknk
7043	W "N" or "Xaa" used: Feature required	nknknknknk nknknknknk nknknknknk nknkaagc
7562	W "N" or "Xaa" used: Feature required	agg caa ctt caa gag gga tca atc ttc gaa g
7775	W "N" or "Xaa" used: Feature required	Arg Gln Leu Gln Glu Gly Ser Ile Phe Glu V